

Office Memorandum • UNITED STATES GOVERNMENT

TO : Dr. C. L. Dunham, Director
Division of Biology & Medicine

FROM : Brig. General Alfred D. Starbird, USA
Director of Military Application

SUBJECT: FALLOUT PROGRAM

SYMBOL: MAT:KFM

DATE: NOV 19 1956

As a result of the briefing of the AEC Commissioners on October 22, 1956, on REDWING fallout, several questions have been asked by Commissioner Libby and Dr. Potts. These have led into a broader definition of the problem. The central problem is to develop a theory or a model of fallout which will explain the facts and enable the prediction of the consequences of future tests. This model should cover the period from the explosion of the bomb until substantially all of the fallout has returned to earth. The immediate objective will be to exploit the available information from REDWING. Combining the knowledge of fission energy released with the data on local fallout at REDWING, it may be possible to estimate the amount of radioactive debris in the stratosphere and hence the worldwide fallout to be anticipated. The next objective will be to apply REDWING and CASTLE data, plus the existing model, to the planning for the next test series with two purposes in mind: First, to refine the model still more; and second, to apply it directly to the urgent problem of minimizing worldwide fallout.

With the above in mind, it is Dr. Libby's desire to have the Division of Biology & Medicine undertake the following:

- a. Further analyze the REDWING samples (analyses to include radiochemical) with attention to the elements Sr-90, Mo-99, Cs-137, Ce-144 and tritium.
- b. Ask Rand to investigate the data from REDWING to see what, if any, change should be made in its report P-822-AEC, dated March 12, 1956.
- c. Study for fallout the bottom surface samples obtained by the Scripps Institute of Oceanography taken prior to REDWING. And also make a study of the same of post-REDWING samples S10 may have obtained.
- d. Consider the possibilities of a more comprehensive fallout study for Operation PILGRIM to further develop the theory or a model as referred to above.

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Dr. C. L. Dunham

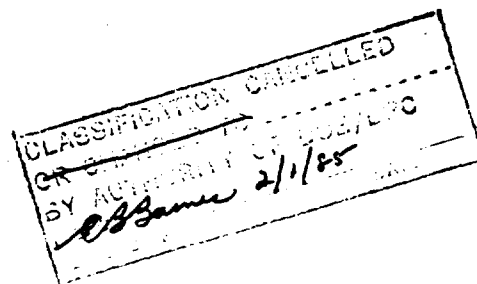
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DMA, at Dr. Libby's suggestion, has asked our laboratories to study fireball characteristics as they may relate to the debris distribution and scavenging, and to prepare a report on the subject.

AFSWP, B&M and DMA are all involved to a greater or lesser degree in this project, therefore, it is proposed that B&M and DMA sponsor jointly, a symposium to be held shortly after the first of the calendar year. In the meantime, a free exchange of information among the interested parties in preparation for the symposium is desired.

Will you please advise us of your desires on the sponsorship of the symposium and any other pertinent information that would best serve the purpose of getting at the problem as desired by the Commissioners.


Alfred D. Starbird
Brigadier General, USA
Director of Military Application



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